

# Curriculum vitae – Leontine Alkema

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January 2017

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## CONTACT INFORMATION

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Mailing address      Department of Biostatistics and Epidemiology  
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## RESEARCH INTERESTS

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Bayesian inference; Statistical demography; Family planning (contraceptive use, unmet need, unintended pregnancies and abortion); Global health (child and maternal mortality, HIV/AIDS); Fertility; Population projections; Urbanization; Poverty measurement.

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## EDUCATION

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2008                    University of Washington, Seattle, USA  
Ph.D. Studies in Statistics, with Ph.D. track in Statistical Demography (2006)  
Dissertation: Uncertainty assessments of demographic estimates and projections.  
Advisors: Prof. A. E. Raftery and Dr. S. J. Clark  
2003                    Delft University of Technology, the Netherlands  
M.S., Applied Mathematics  
Thesis: Multivariate time series analysis of oil reservoir pressure.  
2002                    Delft University of Technology, the Netherlands  
B.S., Applied Mathematics

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## EMPLOYMENT AND OTHER RESEARCH POSITIONS

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2015 –                 Assistant professor, Department of Biostatistics and Epidemiology  
University of Massachusetts, Amherst, USA.  
2013 –                 Lead technical advisor for the Maternal Mortality Estimation Inter-Agency Group  
(MMEIG, agencies involved: WHO, UNICEF, UNFPA, the World Bank and the UN  
Population Division).  
2011 –                 Member, technical advisory group of the United Nations Inter-agency Group on Child  
Mortality Estimation (UN-IGME, agencies involved: UNICEF, WHO, UN Population  
Division and the World Bank).

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- 2009 – 2015 Assistant professor, Department of Statistics and Applied Probability, National University of Singapore, Singapore.
- 2012 – 2015 Honorary Assistant professor, Saw Swee Hock School of Public Health National University of Singapore, Singapore.
- 2014 Visiting Assistant Professor, Department of Demography, UC Berkeley, USA (Spring semester).
- 2010 – 11 Consultant, United Nations Population Division, New York, USA. Project: Method development to construct estimates and projections of family planning indicators.
- 2009 Lecturer, Department of Statistics, Columbia University, New York, USA (Spring semester).
- 2008 – 09 Postdoctoral Research Fellow, Earth Institute, Columbia University, New York, USA.
- 2006 – 08 Shanahan Fellow, Center for Studies in Ecology and Demography, University of Washington, USA.
- 2005 – 08 Research assistant, Department of Statistics, University of Washington, Seattle, USA.
- 2007 Visiting researcher, Centre for Actuarial Research, University of Cape Town, Cape Town, South Africa (2 months).
- 2007 Research intern, African Population and Health Research Center, Nairobi, Kenya. Topic: Poverty measurement in slum settlements (6 months).
- 2006 Consultant, Joint United Nations programme on HIV/AIDS (UNAIDS). Project: Development of a Bayesian melding approach for assessing uncertainty in the UNAIDS Estimation and Projection Package tool for estimating HIV prevalence in generalized epidemics.
- 2006 Research intern, United Nations Population Division, New York, USA. Topic: Assessing uncertainty in fertility projections (3 months).
- 2003 Research assistant, Shell, the Netherlands.
- 2002 Research intern, WWF Denpasar, Indonesia. Topic: Analysis of fisheries data (3 months).

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### PROFESSIONAL ACTIVITIES

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- 2014 – Associate editor for *The Annals of Applied Statistics*.
- 2014 – Member, WHO-led working group on reporting of global health indicators.
- 2014 – 2015 Member, undergraduate curriculum committee, Department of Statistics and Applied Probability, National University of Singapore.
- 2013 – 2014 Organizer of two sessions on statistical demography for the annual meeting of the Population Association of America in Boston, 2014.
- 2012 – 2013 Member, organizing committee for the Third Singapore Conference on Statistical Science, National University of Singapore.
- 2009 – 2012 Member, consulting center committee, Department of Statistics and Applied Probability, National University of Singapore.

Reviewed for: *The Annals of Applied Statistics*; *Asia Population Studies*; *Contraception*; *Demography*; *Demographic Research*; *Health and Nutrition*; *Lancet Global Health*; *New England Journal of Medicine*; *PLOS ONE*; *PLOS Medicine*; *Population Studies*; *Sexually Transmitted Infections*; *Statistica Sinica*; *Statistics, Politics and Policy*; *WHO Bulletin*.

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## TEACHING EXPERIENCE

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University of Massachusetts Amherst, Department of Biostatistics and Epidemiology, USA

- Bayesian computation in biostatistics (BIOSTATS 697G), Spring 2016.
- Applied Bayesian Statistical Modeling (BIOSTATS 730), Spring 2017.

National University of Singapore, Department of Statistics and Applied Probability, Singapore

- Applied regression analysis (ST5202), Spring 2010 and Spring 2011.
- Applied time series analysis (ST3233), Fall 2013 and Fall 2014.
- Demographic methods (ST3244), Fall 2010, Fall 2011 and Spring 2013.
- Regression analysis (ST3131), Spring 2010 and Spring 2012.
- Survival analysis (ST5212), Spring 2015.

UC Berkeley, Department of Demography, USA

- Advanced demographic analysis (Demography 211), Spring 2014.

Columbia University, Department of Statistics, New York, USA

- Linear regression models (W4315), Spring 2009.

Soochow University, School of Mathematical Science, Suzhou, China

- Applied linear regression analysis (Short course), May 2012.

Other:

- Guest lecturer in Contemporary global health issues (CO5221), Spring 2013 (lecture on estimating global health indicators). National University of Singapore, Saw Swee Hock School of Public Health, Singapore.
- Teaching assistant for undergraduate level statistics courses for students in sociology (Stat 321, Stat 322) and graduate level statistics course for students in economics (Stat 481), 2004/2005. University of Washington, Department of Statistics, Seattle, USA.
- Teaching assistant for courses in probability theory for students in computer science, and students in civil engineering, 2001/2002. Delft University of Technology, Applied Mathematics, Delft, Netherlands.

Supervision of MS and PhD students at UMass Amherst:

- 2015 – Emily Peterson (PhD)
- 2016 – Chuchu Wei (PhD)
- 2016 – Zhenning Kang (MS)

Supervision of PhD and BSc students at the National University of Singapore:

- 2013 – Fengqing Chao (Estimating and projecting global health indicators, Saw Swee Hock School of Public Health PhD program).
- 2014 – 15 Prince Peprah (Dept. of Statistics and Applied Probability PhD program).
- 2014 – 15 Michael Linardi Tanny, Tan Yu Wen Joanne and Chen Yunjin (Estimating inequality in child mortality).
- 2012 – 13 Wu Jinxian (Estimating age patterns of child mortality), Neo Soo Khee and Goh Wei Xian (Estimating fertility rates).

- 2011 – 12 Jin Rou New (Estimating child mortality; NJR received the NUS Outstanding Undergraduate Researcher Prize), Fengqing Chao (Estimating and validating measures of maternal mortality), Stella Ting (Estimating gender biases in child mortality).
- 2010 – 11 Maria Wong, Pei Rong Seah, Zhuang Dingxuan (Validating child mortality estimates).
- 2009 – 10 Wei Ling Ann (Estimating child mortality), Choo Shao Ying (Poverty in Kenya).

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## PEER-REVIEWED PUBLICATIONS

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29. **L. Alkema**, S. Zhang, D. Chou, A. Gemmill, A.B. Moller, D.M. Fat, L. Say, C.D. Mathers, D. Hogan (accepted). A Bayesian approach to the global estimation of maternal mortality. *The Annals of Applied Statistics*; see <http://arxiv.org/abs/1511.03330>.
28. J.R. New, J. Stover, Y.P. Gupta, **L. Alkema** (accepted). Subnational Rates and Trends in Contraceptive Prevalence and Unmet Need for Family Planning from 1990 to 2020: An Analysis for All 29 States in India. *The Lancet Global Health*
27. G. Sedgh, J. Bearak, S. Singh, A. Bankole, A. Popinchalk, B. Ganatra, C. Rossier, C. Gerdtts, Ö. Tunçalp, R. Johnson, H.B. Johnston, **L. Alkema** (2016). Abortion incidence between 1990 and 2014: global, regional, and subregional levels and trends. *The Lancet* 388(10041): 258 – 267.
26. **L. Alkema**, D. Chou, D. Hogan, S. Zhang, A.B. Moller, A. Gemmill, D.M. Fat, T. Boerma, M. Temmerman, C.D. Mathers, L. Say (2016). Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Inter-agency Group for Maternal Mortality Estimation. *The Lancet* 387(10017): 462 – 474.
25. D. You, L. Hug, S. Ejdemyr, P. Idele, D. Hogan, C. Mathers, P. Gerland, J.R. New, **L. Alkema** (2015). Global, regional, and national levels and trends in under-5 mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Inter-agency Group for Child Mortality Estimation. *The Lancet*. [http://dx.doi.org/10.1016/S0140-6736\(15\)00120-8](http://dx.doi.org/10.1016/S0140-6736(15)00120-8)
24. **L. Alkema**, P. Gerland, A.E. Raftery, J. Wilmoth (2015). The United Nations Probabilistic Population Projections: An Introduction to Demographic Forecasting with Uncertainty. *Foresight: The International Journal of Applied Forecasting* 37: 19–24.
23. **L. Alkema**, J.R. New (2014). Global estimation of child mortality using a Bayesian B-spline bias-reduction method. *The Annals of Applied Statistics* 8(4): 2122–2149.
22. P. Gerland, A.E. Raftery, H. Ševčíková, N. Li, D. Gu, T. Spoorenberg, **L. Alkema**, B.K. Fosdick, J. Chunn, N. Lalic, G. Bay, T. Buettner, G.K. Heilig, J. Wilmoth (2014). World population stabilization unlikely this century. *Science* 346(6206): 234–237.
21. **L. Alkema**, F. Chao, D. You, J. Pedersen, C.C. Sawyer (2014). National, regional, and global sex ratios of infant, child, and under-5 mortality and identification of countries with outlying ratios: a systematic assessment. *The Lancet Global Health* 2(9): e521–e530.

20. **L. Alkema**, J.R. New, J. Pedersen, D. You, on behalf of the members of the UN Inter-agency Group for Child Mortality Estimation and its Technical Advisory Group (2014). Child Mortality Estimation 2013: An overview of updates in estimation methods by the United Nations Inter-agency Group for Child Mortality Estimation. *PLOS ONE* 9(7): e101112.
19. L. Say, D. Chou, A. Gemmill, Ö. Tunçalp, A. B. Moller, J. Daniels, A. M. Gülmezoglu, M. Temmerman, **L. Alkema** (2014). Global causes of maternal deaths: A WHO systematic analysis. *The Lancet Global Health* 2(6): e323–e3332.
18. T.P. Phan, **L. Alkema**, E.S. Tai, K.H.X. Tan, Q. Yang, W.Y. Lim, Y.Y. Teo, C.Y. Cheng, X. Wang, T.Y. Wong, K.S. Chia, A.R. Cook (2014). Forecasting the burden of type 2 diabetes in Singapore using a demographic epidemiological model of Singapore. *BMJ Open Diabetes Research and Care* 2(1): e000012.
17. A. E. Raftery, **L. Alkema**, P. Gerland (2014). Bayesian population projections for the United Nations. *Statistical Science*, 29(1): 56–68.
16. F. Chao, **L. Alkema** (2014). How informative are vital registration data for estimating maternal mortality? A Bayesian analysis of WHO adjustment data and parameters. *Statistics and Public Policy*, 1(1): 6–14.
15. **L. Alkema**, G. Jones, C. Rue (2013). Levels of urbanization in the world's countries: testing consistency of estimates based on national definitions. *Journal of Population Research*, 30(4): 291–304.
14. M. Oestergaard, **L. Alkema**, J.E. Lawn (Editorial, 2013). Millennium Development Goals national targets are moving targets and the results will not be known until well after the 5 deadline of 2015. *International Journal of Epidemiology* 42(3): 645–647.
13. **L. Alkema**, V. Kantorova, C. Menozzi, A. Biddlecom (2013). National, regional and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: a systematic and comprehensive analysis. *The Lancet* 381(9878): 1642–1652.
12. **L. Alkema**, J.R. New (2012). Progress toward global reduction in under-5 mortality: A bootstrap analysis of uncertainty in Millennium Development Goal 4 estimates. *PLOS Medicine* 9(12): e1001355.
11. **L. Alkema**, D. You (2012). Child Mortality Estimation: a comparison of UN-IGME and IHME estimates of levels and trends in under-5 mortality rates and deaths. *PLOS Medicine* 9(8): e1001288.
10. **L. Alkema**, M. Wong, P.R. Seah (2012). Monitoring progress towards Millennium Development Goal 4: A call for improved validation of under-5 mortality rate estimates. *Statistics, Politics, and Policy* 3(2): Art. 2.

9. **L. Alkema**, A. E. Raftery, P. Gerland, S. J. Clark, F. Pelletier (2012). Estimating trends in the total fertility rate with uncertainty using imperfect data: Examples from West Africa. *Demographic Research* 26(15): 331–362.
8. **L. Alkema**, W.L. Ann (2011). Estimating the under-5 mortality rate using a Bayesian hierarchical time series model. *PLOS ONE* 6(9): e23954.
7. **L. Alkema**, A. E. Raftery, P. Gerland, S.J. Clark, F. Pelletier, T. Buettner, G. K. Heilig (2011). Probabilistic projections of the total fertility rate for all countries. *Demography* 48(3): 815–839.
6. H. Ševčíková, **L. Alkema**, A. E. Raftery (2011). BayesTFR: An R package for probabilistic projections of the total fertility rate. *Journal of Statistical Software* 43: 1–29.
5. L. Winowiecki, S. Smukler, K. Shirley, R. Remans, G. Peltier, E. Lothes, E. King, L. Comita, S. Baptista, **L. Alkema** (2011). Tools for enhancing interdisciplinary communication. *Sustainability: Science, Practice & Policy* 7(1): 74–80.
4. L. F. Johnson, **L. Alkema**, R. E. Dorrington (2010). A Bayesian approach to uncertainty analysis of sexually transmitted infection models. *Sexually Transmitted Infections* 86: 169–174.
3. **L. Alkema**, A. E. Raftery, T. Brown (2008). Bayesian melding for estimating uncertainty in national HIV prevalence estimates. *Sexually Transmitted Infections* 84 (Suppl I): i11–i16.
2. T. Brown, J. A. Salomon, **L. Alkema**, A. E. Raftery, E. Gouws (2008). Progress and challenges in modelling country-level HIV/AIDS epidemics: the UNAIDS Estimation and Projection Package 2007. *Sexually Transmitted Infections* 84 (Suppl I): i5–i11.
1. **L. Alkema**, A. E. Raftery, S. J. Clark (2007). Probabilistic projections of HIV prevalence using Bayesian melding. *The Annals of Applied Statistics* 1(1): 229–248.

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#### MANUSCRIPTS UNDER REVIEW AND IN PREPARATION

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M. Alexander, **L. Alkema**. Estimating Neonatal Mortality.

**L. Alkema**, J. Chunn, J.R. New, L. Gan, P. Gerland and others. Global Probabilistic Urbanization Projections until 2100.

**L. Alkema**, K.D. Dang Doan, B. Barakat. Educational Attainment, Marital Status and Parity: A New Method for Reconstructing and Projecting Cohort Trends.

F. Chao, **L. Alkema**, P. Gerland. A Systematic Assessment of National, Regional and Global Levels and Trends in the Sex Ratio at Birth and Identification of Countries with Outlying Levels.

V. Kantorova, J.R. New, A. Biddlecom, **L. Alkema**. Setting ambitious yet achievable targets using probabilistic projections: the case of met demand for family planning.

M.H. Yim, **L. Alkema**, A.E. Biddlecom, V. Kantorova. Marriage and Cohabiting Unions: Age-Specific Estimates and Projections at the National, Regional and Global Level.

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### OTHER REPORTS AND WORKING PAPERS

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G.A. Stevens, **L. Alkema**, R.E. Black, J.T. Boerma, G.S. Collins, M. Ezzati, J.T. Grove, D.R. Hogan, M.C. Hogan, R. Horton, J.E. Lawn, A. Marušić, C.D. Mathers, C.J.L. Murray, I. Rudan, J.A. Salomon, P.J. Simpson, T. Vos, V. Welch, GATHER Working Group (2016). Guidelines for accurate and transparent health estimates reporting: The GATHER statement. *The Lancet/PLOS Medicine*.

**L. Alkema**, A. Asafi, A. Bankole, B. Ganatra, C. Gerdtz, H. Johnston, A. Popinchalk, C. Rossier, S.D. Singh, O. Tuncalp, P. Van Look, G. Sedgh (2015). Estimating Global Abortion Incidence from 1990 until 2015 Using Bayesian Methods and a Framework of Abortion Determinants. Conference paper for Annual meeting of the Population Association of America, San Diego.

A. E. Raftery, **L. Alkema**, P. Gerland, S. J. Clark, F. Pelletier, T. Buettner, G. Heilig, N. Li, H. Sevcikova (2009). White Paper: Probabilistic Projections of the Total Fertility Rate for the 2010 World Population Prospects. <http://www.un.org/esa/population/meetings/EGM-Fertility2009/egm-fertility2009.html>

A.E. Raftery, **L. Alkema** (2008). Discussion on the paper "Estimates of human immunodeficiency virus prevalence and proportion diagnosed based on Bayesian multiparameter synthesis of surveillance data" by Goubar et al. *Journal of the Royal Statistical Society: Series A* 171(3): 541–580.

**L. Alkema**, O. Faye, M. Mutua, E. Zulu (2008). Identifying Poverty Groups in Nairobi's Slum Settlements: A Latent Class Analysis Approach. Conference paper for Annual meeting of the Population Association of America, New Orleans. <http://paa2008.princeton.edu/abstractViewer.aspx?submissionId=80116>

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### METHODOLOGICAL CONTRIBUTIONS TO UN REPORTS

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Listed below are results from collaborative research projects with references to associated United Nations reports that utilized the methods developed.

#### Child mortality:

- Methods: Bayesian penalized B-spline regression model for estimating under-5 mortality (2013, 2014); Bayesian hierarchical time series model for estimates sex ratios for infant and child mortality (2013, 2014); Bootstrap method for uncertainty assessment of under-5 mortality estimates (2012).
- References: *The United Nations Inter-agency Group for Child Mortality Estimation (2012, 2013, 2014, 2015). Levels & Trends in Child Mortality: Report 2012 and Report 2013 and Report 2014 and Report 2015.*

#### Family planning:

- Methods: Bayesian hierarchical time series model for estimation and projection for family planning indicators.

- References: *United Nations, Department of Economic and Social Affairs, Population Division (2013, 2014, 2015, 2016). Estimates and Projections of Family Planning Indicators: 2013-2014-2015-2016 Revision.*

#### Fertility:

- Methods: Probabilistic projection method for the total fertility rate (2010) and an extension for low fertility countries (2012).
- References: *United Nations, Department of Economic and Social Affairs, Population Division (2011, 2013). World Population Prospects: The 2010, 2012 and 2015 Revision.*

#### HIV prevalence:

- Method: Bayesian melding approach for estimating HIV prevalence in generalized epidemics.
- Reference: *UNAIDS (2007). 2007 AIDS epidemic.*

#### Maternal mortality

- Method: Bayesian maternal mortality estimation model (BMat); minor adjustments to the 2012 Maternal Mortality Estimation Inter-Agency Group (MMEIG) estimation methods (2014).
- References: *Maternal Mortality Estimation Inter-Agency Group (2014,2015). Trends in maternal mortality: 1990 to 2013/2015. Estimates by WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division.*

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## GRANTS

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2017 – 19	PI: <i>Improved monitoring of family planning indicators: statistical approaches and tools to improve strategic information at national and subnational levels.</i> Bill & Melinda Gates Foundation; USA.
2013 – 17	PI: <i>Further development of the estimation and forecasting model for contraceptive prevalence and related family planning indicators for FP2020.</i> Avenir Health; USA.
2014 – 15	PI: <i>Development of new estimation and projection methods for key global demographic and health indicators</i> (S\$84,000). Ministry of Education Singapore.
2013 – 15	PI: <i>Missing Girls: An Analysis of Trends in Pre- and Postnatal Gender Discrimination</i> (S\$249,100). Humanities and Social Sciences Research Fund; National University of Singapore.
2013 – 15	PI: <i>Human capital in Asia: modeling and analysing sub-regional levels and trends</i> (S\$138,800). Global Asia Institute Research Grant; National University of Singapore.
2013	PI: <i>Development of an improved estimation method for under-5 mortality.</i> UNICEF/Stanton-Hill Research LLC; USA.
2013	PI: <i>Estimating the sex differential in child mortality</i> (preliminary study). UNICEF/Stanton-Hill Research LLC; USA.
2010 – 13	Co-PI: <i>Estimating and Projecting Urbanisation and City Growth</i> (S\$231,500; PI Gavin Jones). Global Asia Institute, National University of Singapore.
2009 – 13	PI: NUS start-up grant (S\$100,000). Ministry of Education Singapore.



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## FELLOWSHIPS AND AWARDS

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2013	Young Scientist Award; Faculty of Science, National University of Singapore.
2011 – 12	Excellent Young Teacher Award; Faculty of Science, National University of Singapore.
2009 – 10	Excellent Young Teacher Award; Faculty of Science, National University of Singapore.
2008 – 09	Earth Institute Postdoctoral Fellowship; Columbia University.
2006 – 08	Shanahan Fellowship, Center for Studies in Ecology and Demography; University of Washington, USA.
2004	Hubert M. Blalock Fellowship, Center for Statistics and the Social Sciences; University of Washington, USA.
2004	Post-graduate Study Award; VSB Bank, the Netherlands.
1997	Delft University of Technology Star Award; Delft University of Technology, the Netherlands.

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## SELECTED PRESENTATIONS

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- A Bayesian approach to the global estimation of maternal mortality (6/2016). International Society for Bayesian Analysis 2016 world meeting, Sardinia, Italy.
- Subnational Rates and Trends in Contraceptive Prevalence and Unmet Need for Family Planning from 1990 to 2020: An Analysis for All 29 States in India (4/2016). Annual Meeting of the Population Association of America, Washington D.C.
- Trends in maternal mortality 1990-2015: Estimates developed by WHO, UNICEF, UNFPA, the World Bank and UNPD (3/2016). WHO Reference Group on Global Health Statistics (RGHS), Geneva, Switzerland.
- Bongaarts goes Bayesian (11/2015). Sussmilch lecture at the Max Planck Institute for Demographic Research, Rostock, Germany.

*Before 2015, summarized by topic*

### Estimating Gender Differences in Child Mortality

1. Annual Meeting of the Population Association of America, Boston (4/2014)
2. IUSSP International Population Conference, Busan, South Korea (9/2013)
3. Annual Meeting of the Population Association of America, New Orleans (4/2013, poster)

### Estimating Child Mortality

1. Annual Meeting of the Population Association of America, Boston (4/2014, poster award)
2. UC Berkeley, Department of Statistics seminar (4/2014)
3. UC Berkeley, Department of Demography seminar (3/2014)
4. IUSSP International Population Conference, Busan, South Korea (9/2013)
5. Joint Statistical Meetings, Montreal (8/2013)
6. Annual Meeting of the Population Association of America, Washington D.C. (4/2011)

### Estimates and Short-term Projections of Unmet Need for Contraceptives

1. Annual Meeting of the Population Association of America, Washington D.C. (4/2011, poster)
2. Second Singapore Conference on Statistical Science, Singapore (4/2011)

#### Urbanization (Probabilistic Projections/Alternative Estimates/City Projections)

1. Annual Meeting of the Population Association of America, Washington D.C. (4/2011, poster)
2. Asian Population Association Conference, Bangkok, Thailand (8/2012, poster)
3. Annual Meeting of the Population Association of America, San Francisco (4/2012, poster)

#### Probabilistic Projections of Fertility

1. IUSSP International Population Conference, Busan, South Korea (9/2013)
2. Annual Meeting of the Population Association of America, New Orleans (4/2013, poster)
3. Expert Group Meeting on Recent and Future Trends in Fertility, United Nations Population Division, New York (12/2009)
4. IUSSP International Population Conference, Marrakech, Morocco (9/2009)
5. Joint Statistical Meetings, Denver (8/2008)
6. Earth Institute Fellows Symposium, Columbia University, New York (11/2008)
7. Annual meeting of the Pacific Institute for the Mathematical Sciences collaborative research group on Bayesian modeling and computation for networks, Washington State (5/2008)
8. Annual Meeting of the Population Association of America, New Orleans (4/2008)
9. Center for Demography and Ecology Seminar Series, University of Washington, Seattle (11/2007)
10. Centre for Actuarial Research (CARE), University of Cape Town, South Africa (8/2007)
11. United Nations Population Division, New York (4/2007)

#### Assessing Uncertainty in Fertility Estimates in Western Africa

1. IUSSP International Population Conference, Marrakech, Morocco (9/2009)
2. Annual meeting of the Population Association of America, Detroit (4/2009)
3. Human Mortality Database Symposium, Max Planck, Rostock, Germany (6/2008)

#### Identifying Poverty Groups in Nairobi's Slum Settlements: A Latent Class Analysis Approach

1. Annual Meeting of the Population Association of America, New Orleans (4/2008)
2. INDEPTH annual conference and scientific meeting, Nairobi, Kenya (9/2007)
3. African Population and Health Research Center, Nairobi, Kenya (6/2007)

#### Probabilistic Projections of HIV Prevalence using Bayesian Melding

1. Workshop on Epidemiology of Infectious Diseases, IMS, Singapore (1/2010)
2. Annual Meeting of the Actuarial Society South Africa, Cape Town (8/2007)
3. Medical Council South Africa, Cape Town (7/2007)
4. Annual Meeting of the Population Association of America, New York (4/2007)
5. African Population and Health Research Center, Nairobi, Kenya (1/2007)
6. International Workshop on Data, Algorithms and Decision Making, Trest, Czech Rep. (12/2006)
7. UNAIDS reference group technical meeting, London, UK (10/2006)
8. Statistical Center for HIV/AIDS Research and Prevention, Fred Hutchinson, Seattle (2/2006)